

FRANKEN et al. -- 10/615,421
Attorney Docket: 081468-0304791

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A lithographic projection apparatus, comprising:
a radiation system constructed and arranged to provide a beam of radiation;
a support constructed and arranged to support a patterning device, the patterning device constructed and arranged to pattern the beam according to a desired pattern;
a substrate table constructed and arranged to hold a substrate;
a projection system constructed and arranged to project the patterned beam onto a target portion of the substrate;
a base to which the support and the substrate table are mounted; and
a reference frame compliantly mounted to the base, wherein the projection system comprises at least one optical element mounted on a projection frame that is compliantly mounted to the reference frame, wherein the projection system is compliantly mounted to the reference frame by at least one compliant mount, the compliant mount comprising
a T-shaped member with one of the projection system and the reference frame attached to both ends of a first elongate member of the T-shaped member and the other of the projection system and the reference frame is attached to an end of a second elongate member of the T-shaped member.
2. (Original) A lithographic projection apparatus according to claim 1, wherein an eigenfrequency of the projection frame compliantly mounted to the reference frame is between about 10 and 30 Hz.
3. (Original) A lithographic projection apparatus according to claim 1, wherein an eigenfrequency of the reference frame compliantly mounted to the base is about 0.5 Hz.
4. (Original) A lithographic projection apparatus according to claim 1, wherein the projection system is compliantly mounted to the reference frame by at least three compliant mounts.

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FRANKEN et al. -- 10/615,421
Attorney Docket: 081468-0304791

5. (Original) A lithographic projection apparatus according to claim 1, wherein the projection system is mounted to the reference frame on nodal axes of a dominant mode of bending vibration of the reference frame or a torsional vibration of the reference frame.
6. (Canceled)
7. (Currently amended) A lithographic projection apparatus according to claim [[6]] 1, wherein the T-shaped member has an internal first eigenfrequency that is greater than 1000 Hz.
8. (Canceled)
9. (Original) A lithographic projection apparatus according to claim 1, wherein motion of the projection system relative to the reference frame is damped.
10. (Original) A lithographic projection apparatus according to claim 9, wherein the motion of the projection system relative to the reference frame is actively damped by piezoelectric actuators or Lorentz-force actuators.
11. (Currently amended) A device manufacturing method, comprising:
projecting a patterned beam of radiation onto a target portion of a layer of radiation-sensitive material at least partially covering a substrate using a projection system;
supporting a reference frame, a support constructed and arranged to support a patterning device, and a substrate table constructed and arranged to hold the substrate, on a base, wherein the reference frame is compliantly mounted to the base and the projection system is mounted to the reference frame; and
compliantly mounting the projection system to the reference frame while projecting the patterned beam of radiation onto the target portion, wherein the projection system is compliantly mounted to the reference frame by at least one compliant mount, the compliant mount comprising
a T-shaped member with one of the projection system and the reference frame attached to both ends of a first elongate member of the T-shaped member and the other of the

FRANKEN et al. -- 10/615,421
Attorney Docket: 081468-0304791

projection system and the reference frame is attached to an end of a second elongate member of the T-shaped member.

12. (Original) A method according to claim 11, wherein the projection system comprises at least one optical element mounted on a projection frame that is compliantly mounted to the reference frame and an eigenfrequency of the projection frame compliantly mounted to the reference frame is between about 10 and 30 Hz.
13. (Original) A method according to claim 11, wherein an eigenfrequency of the reference frame compliantly mounted to the base is about 0.5 Hz.
14. (Original) A method according to claim 11, wherein the projection system is compliantly mounted to the reference frame by at least three compliant mounts.
15. (Original) A method according to claim 11, wherein the projection system is compliantly mounted to the reference frame on nodal axes of a dominant mode of bending vibration of the reference frame or a torsional vibration of the reference frame.
16. (Canceled)
17. (Currently amended) A method according to claim [[16]] 11, wherein the T-shaped member has an internal first eigenfrequency that is greater than 1000 Hz.
18. (Canceled)
19. (Original) A method according to claim 11, wherein motion of the projection system relative to the reference frame is damped.
20. (Original) A method according to claim 19, wherein the motion of the projection system relative to the reference frame is actively damped by piezoelectric actuators or Lorentz-force actuators.

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21. (Canceled)